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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,481	04/23/2001	Armando J. Vigil	"PRO SE"	5735

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EXAMINER	
TRAN, TRANG U	
ART UNIT	**PAPER NUMBER**
2622	

DATE MAILED: 04/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/840,481	VIGIL ET AL.	
	Examiner	Art Unit	
	Trang U. Tran	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *25,31,32,35 and 41-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *25,31,32,35 and 41-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 28, 2006 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 25, 31-32, 35 and 41-43 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 25, 35 and 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US Patent No. 5,363,144) in view of Al-Dhahir et al. (US Patent No. 6,122,015).

In considering claim 25, Park discloses all the claimed subject matter, note 1) the claimed estimating modulation characteristics of the DTV data to be transmitted is met by the periodic sequence characteristic of the training sequence (Fig. 7, col. 1, line 23 to

col. 2, line 45 and col. 6, lines 12-62), 2) the claimed generating a training sequence that is ATSC DTV compliant, the training sequence being based upon a priori knowledge of the DTV data including the generated modulation characteristics is met by the ternary sequence generating section 1 (Fig. 1, col. 3, lines 35-67), 3) the claimed modulating the multiplexed DTV data stream for transmission is met by the radio frequency modulating section 3 (Fig. 1, col. 3, line 65 to col. 4, line 5), 4) the claimed receiving a transmitted DTV signal is met by the antenna ANT2 and the tuner 11 (Fig. 2, col. 4, lines 6-44), 2) the claimed detecting correlation peaks in the received DTV signal based upon the multiplexed training sequence embedded therein is met by the cross-correlation section 17 which computes a cross-correlation of the reference signal and the selected line and finding out the ghost channel and detects the peak value E (Figs. 2 and 3, col. 4, line 63 to col. 6, line 11), and 3) the claimed using the detected correlation peaks to mitigate multipath in the received DTV signal is met by the ghost canceling filter 19 (Figs. 2 and 3, col. 4, line 63 to col. 6, line 11).

However, Park explicitly does not disclose the claimed generating a training sequence that is ATSC DTV compliant and multiplexing the training sequence with the DTV data to generate a multiplexed DTV data stream with the training sequence embedded therein.

Al-Dhahir et al teaches that according to the present invention, transmitter 10 includes a data sequence generator 20, data sequence generator 20 generates a predetermined sequence of digital bits...the data sequence from first data sequence generator 20 is provided to private encoder/packetizer 16 where it is encoded and

packetized in the same manner as other private data such as parity bits, the packetized data sequence is then combined by multiplexer 22 with packetized audio and video signals in accordance with a digital formatting standard to provide digital television stream 25,... in alternative embodiments of the present invention the digital television signal is coded generally in accordance with the ATSC standard (Fig. 1, col. 3, lines 5-57).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to incorporate the ATSC and the multiplexer as taught by Al-Dhahir et al into Park's system in order to provide a reliable, efficient and affordable digital transmission systems.

Claim 35 is rejected for the same reason as discussed in claim 25.

In considering claim 41, the claimed wherein said receiving system comprises a digital television is met by the DTV (Fig. 1A of Al-Dhahir et al).

Claim 42 is rejected for the same reason as discussed in claim 25.

In considering claim 43, the claimed further comprising a demodulator connected to said correlator for demodulating the receiving DTV signal is met by the radio frequency demodulating section 12 (Fig. 2, col. 4, lines 37-52 of Park).

5. Claims 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Al-Dhahir et al. (US Patent No. 6,122,015) in view of Park (US Patent No. 5,363,144).

In considering claim 31, Al-Dhahir et al discloses all the claimed subject matter, note 1) the claimed estimating modulation characteristics of DTV data to be transmitted is met by the channel estimator 100 (Fig. 2, col. 5, lines 5-55), 2) the claimed generating

a training sequence that is ATSC DTV compliant and is based upon the estimated modulation characteristics of the DTV data is met by the data sequence generator (Fig. 1, col. 3, lines 5-33), and 3) the claimed multiplexing the training sequence with the DTV data to generate a multiplexed DTV data stream with the training sequence embedded therein is met by the multiplexer 22 (Fig. 1, col. 3, lines 5-33).

However, Al-Dhahir et al explicitly do not disclose the claimed modulating the multiplexed DTV data stream for transmission.

Park teaches that the output signal is modulated to a radio frequency band at the radio frequency modulating section 3 and then transmitted to a television receiving section through a transmitting antenna ATN1 (Fig. 1, col. 4, lines 1-5).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to incorporate the radio frequency modulating as taught by Park into Al-Dhahir et al's system in order to provide a reliable, efficient and affordable digital transmission systems.

In considering claim 32, Park discloses all the claimed subject matter, note 1) the claimed receiving a transmitted DTV signal is met by the antenna ANT2 and the tuner 11 (Fig. 2, col. 4, lines 6-44), 2) the claimed detecting correlation peaks in the received DTV signal based upon the multiplexed training sequence embedded therein is met by the cross-correlation section 17 which computes a cross-correlation of the reference signal and the selected line and finding out the ghost channel and detects the peak value E (Figs. 2 and 3, col. 4, line 63 to col. 6, line 11), and 3) the claimed using the

detected correlation peaks to mitigate multipath in the received DTV signal is met by the ghost canceling filter 19 (Figs. 2 and 3, col. 4, line 63 to col. 6, line 11).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trang U. Tran whose telephone number is (571) 272-7358. The examiner can normally be reached on 8:00 AM - 5:30 PM, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TT
April 19, 2006

Trang U. Tran
Examiner
Art Unit 2622